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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/504,631	02/15/2000	William J. Beyda	00P7463US	8142

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Siemens Corporation  
Intellectual Property Department  
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EXAMINER

TSEGAYE, SABA

ART UNIT

PAPER NUMBER

2662

DATE MAILED: 04/01/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/504,631

Applicant(s)

BEYDA ET AL.

Examiner

Saba Tsegaye

Art Unit

2662

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 January 2004.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5,7 and 9-13 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-5,7 and 9-13 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. Claims 1, 9 and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Olafsson et al. (US 6,317,419).

Olafsson discloses, in Fig. 3, a PCM modem system 300 (claimed a local modem), user modem 312 (claimed a remote modem), a digital impairment learning element 324 (claimed a timing unit) and an echo cancellation unit 328 (column 10, lines 45-63; column 11, lines 15-30).

2. Claims 1, 9 and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Tal et al. (US 5,909,384).

Tal discloses, in Figs 1 and 2, a modem A 22 (claimed a local modem), a modem B 46 (claimed a remote modem), a delay 62 (claimed a timing unit) and an echo canceller 60 (column 5, line 45-column, line 15).

***Claim Rejections - 35 USC § 103***

3. Claims 2-5, 7 and 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Olafsson et al. ('419) in view of Knittle et al. (US 5,761,638).

Olafsson discloses all the claim limitation as stated above. Further, Olafsson discloses that transmitter configured to transmit signals over a downstream communication channel and a receiver configured to receive signals over an upstream communication channel where echo signals follow an analog echo path from the transmitter to the receiver. The transmitter transmitting a training signal, determining, in response to the training signal, digital impairments

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present within the echo path, and obtaining, in response to the training signal, the transfer characteristics of the echo path.

However, Olafsson does not expressly disclose: the data component comprising a sinusoid at a predetermined frequency and at differing amplitudes (as in claims 2, 3, 5, 7, 10 and 11); determining delays between peaks of the return training sinusoid and peaks of the echo signals (as in claims 4, 12, 5 and 7).

Knittle teaches, in Fig. 2D, signals at a predetermined frequency and at differing amplitudes (column 7, lines 25-28). Further, Knittle teaches that the echo delay estimate of the channel is determined by measuring the elapsed time between transmission of the original chirp signal and the occurrence of the largest peak in the  $\sin(x)/x$  pattern of the output signal of the echo parameter estimation circuitry 32.

It would have been obvious to one ordinary skill in the art at the time of the invention was made to add a method that determine delays between peaks of the return training sinusoid and peaks of the echo signal, such as that suggested by Knittle, in the method of Olafsson in order to determine the echo delay estimate of the channel to a high degree of accuracy (column 5, lines 1-10).

#### ***Response to Arguments***

4. Applicant's arguments filed 1/26/04 have been fully considered but they are not persuasive. Applicant argues that Olafsson does not appear to relate to identifying **one** or more echo components, i.e., multiple echo paths, or include a timing unit for such a purpose.

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However, Examiner disagrees with Applicants contention. Olafsson clearly discloses a first modem and a second modem. The first modem having an echo canceller, a transmitter configured to transmit signal to a second modem (**one** or more echo component). Further, Olafsson implies a timing unit at column 5, lines 44-50.

Applicant further, argues that Tal does not appear to provide for identifying **one** or more sources of echo. However, examiner disagrees with Applicants assertion.

Tal clearly discloses a modem A, a modem B (**one** or more echo component), a delay 62 (a timing unit) and an echo canceller.

It is respectfully submitted that the pending claims as they currently stand read in Olafsson and Tal references.

### ***Conclusion***

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.


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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Saba Tsegaye whose telephone number is (703) 308-4754. The examiner can normally be reached on Monday-Friday (7:30-5:00), First Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (703) 305-4744. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ST  
March 31, 2004

  
**JOHN PEZZLO**  
**PRIMARY EXAMINER**